Project Plan

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1 Project assignment

1.1 Context

Zeliox specialises in making mobile power supplies; these power supplies are used for a company vehicle to provide electricity for many devices. They have been working for years with various installation specialists who want to apply a simple yet innovative mobile power supply at any location.

The R&D engineers, specialised in industrial design, electrical engineering and software engineering, want to further improve on the compliance process. The situation is as follows, Zeliox directly assembles their products into a customer's vehicles. However, there is no "formal proof" within the process of actually assembling the Zeliox inside a car.

Furthermore, the registration process is completed using an employee's phone instead of a company-owned phone with the corresponding access management and infrastructure. This system is not automated, technicians have to manually send all photos and data to the administration. Employee must then conveniently put the data in the system. This process needs to be automated.

At the moment they have already made a system, but it is mainly the back-end. There is a frond-end but this part is not yet user-friendly, we were asked to do this.

1.2 Goal of project

The problem they have is that the system is not user-friendly and not automated; therefore, we need to conduct research utilising the DOT Framework.

The desired situation goes as follows, the user can use the app for taking pictures of the company vehicle. The photos are taken when entering and exiting the company car. The data is then automatically sent through API to a system. Users can then see the data immediately after scanning the Car ID.

The new system is more efficient, it speeds up the process and reduces the risk of errors. Users do not need to invest that much time, leaving them more time for other activities. Also all data can be viewed in one system.

This system allows users to record all company vehicle coming in and going out. The reason for recording this is because if something had happened to the car. Zeliox can prove that the company vehicle was in good condition when entering or leaving.

1.3 The assignment

The assignment is to develop a user-friendly app for recording company vehicle. This assignment mainly focuses on the design and front-end development. The requirements of this assignment are: 1) It must be automated, 2) user-friendly for all users involved, 3) the design is bases on research and 4) deliver a high fidelity prototype.

This assignment contains a number of functionalities such as taking pictures, being able to post a comment, to identify a car. The biggest part of the assignment will be researching the target audience to make the best design possible for the user. Therefore, we will use method like Norman design principle [2].

1.4 Scope

For this project we made put up a scope, in the table under neat you'll see what is in the scope en what not.

The project includes:	**The project does not include:**
1 Research the current situation	**1** Back-end development.
2 Research the target audience	**2** The implementation and management falls outside your scope.
3 Research on User interface and User Experience	
4 Create a design	
5 Develop a high fidelity prototype	

Table 1.1: Scope and limitations

1.5 Conditions

This project contains the following conditions. We have to use the same tool set Zeliox uses. Flutter, Docker and VS code are tools we use for programming. With Flutter we can make IPhone and Android apps without programming it separately.

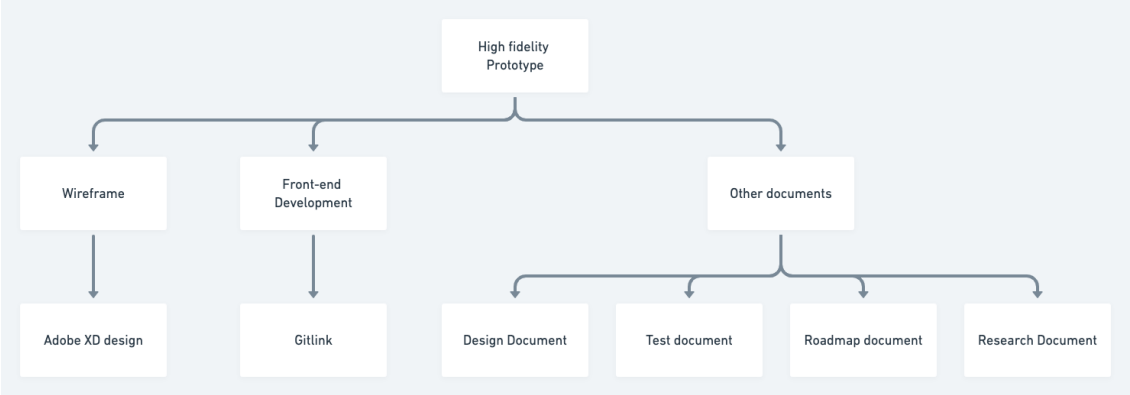
We are planning to use the Scrum method for this project, each sprint will last 2 week. Furthermore, we will use the DOT-Framework [1] or the CMD-method for our research. To manage our Scrum process we are going to use Atlassian.

For our communication we use Slack and Microsoft Teams. Slack is used at Zeliox as a communication tool, Microsoft Teams is used at school as a communication tool.

The tools they use are:

- Flutter
- Docker
- Slack
- VS Code
- SCRUM
- Atlassian
- DOT Framework/CMD methode
- LaTeX
- Teams

1.6 Finished Products



1.7 Research questions

Before starting the research, using the DOT-methods, we were asked to think of a fitting hypothesis. As a result, we came up with the following hypothesis and research questions.

1.7.1 Hypothesis (causal)

Applying design principles, regarding the vehicle intake and check, leads to a better user experience by rating.

1.7.2 Main research question

What parts of the process should be simplified (UI), using technology, so that the target audience can use the app without external assistance.

1.7.3 Sub questions

Target audience technology adoptation

Target audience

What are the wishes and need of our target group, so that we know which parts of the process should be simplified.

What are the abilities of our target group, regarding technology. So that we can take their abilities into account with the UI.

Design principle

Which aspect of the design principle suits the best for our project, regarding the vehicle intake and check app. So that we can design the best suitable UI for our target audience.

Testing UI ratings

What would be a fitting rating system to test the user-friendliness of UI, so that testing is ergonomic and consistent.

2 Approach and planning

2.1 Approach

For this project we are going to use different methods, we are already familiar with some of these methods and since we have not used some of the tools before we need to learn this.

To ensure that this project runs smoothly, we will use scrum methods. As a tool for the scrum method we are going to use Atlassian. We work with a sprint of 2 weeks. Ultimately, this project consists of 8 sprints.

An important part of our project is design thinking. Therefore, we will use Double Diamond method. This method will divide the project in 4 different phase, each phase will last 2 Sprints (4 weeks).

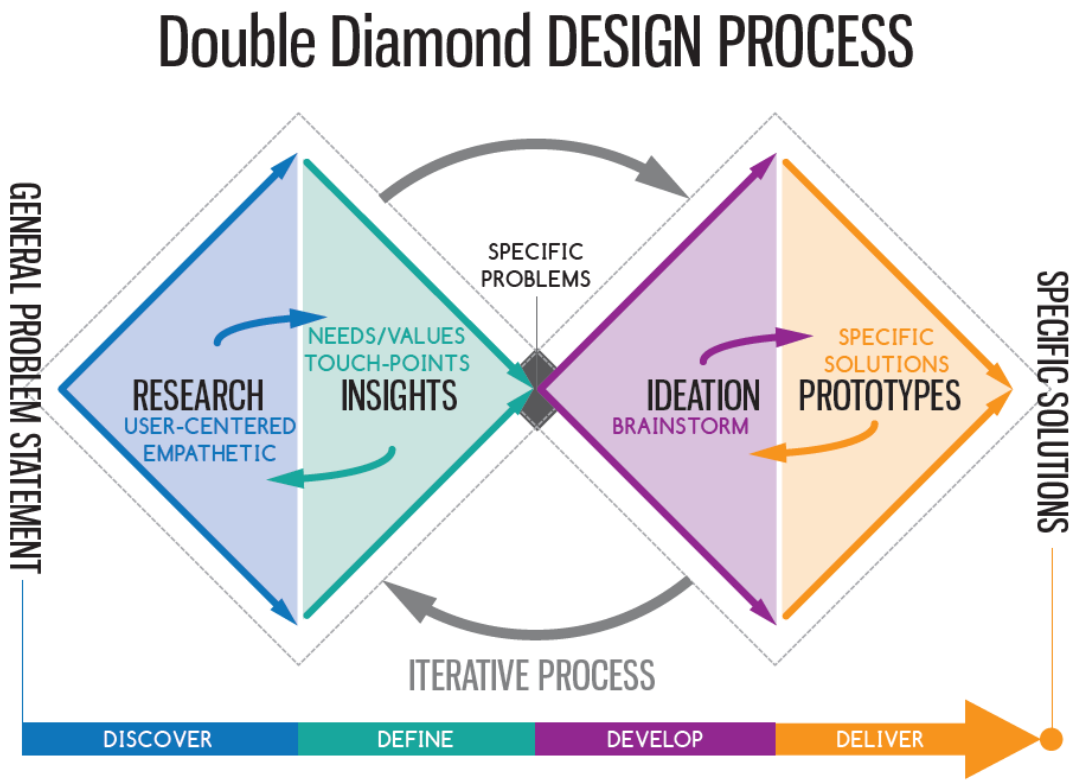


Figure 2.1: Double Diamond method

2.2 Research methods

For our research, we utilise the DOT-Framework [1]. We chose the DOT-Framework methodology, so that we conduct practical ICT-research; furthermore, combine the results of each methodology to form the practical aspect of the research. If you look at the Table 2.2 you will find our research questions. We have mentioned for each research question which research method we are going to use.

Research questions	**Research method**	**Explanation**
1 What are the wishes and need of our target group, so that we know which parts of the process should be simplified.	Customer journey	Customer journey mapping is important, because it is a strategic approach to better understanding customer expectations and is crucial for optimising the customer experience.
2 What are the abilities of our target group, regarding technology. So that we can take it into account with the UI.	User testing or Interview	We set up a test and questions related to technology, for example "Turn on the wifi" or "do you pay by phone?". As a result, we want to have a better picture of our target group with regard to knowledge about technology
3 Which design principle suits the best for our project, regarding the vehicle intake and check app. So that we can design the best suitable UI for our target audience.	Literature Study	To find out what the best design principle is for our project, we will do literature study where we will read papers about various design principles.
4 What would be a fitting rating system to test the user-friendliness of UI, so that testing is ergo-nomic and consistent.	Literature Study	To find out which rating system would be the best for testing the user friendliness, we will do literature study where we will read papers about testing UI.

Table 2.1: Research methods

2.3 Breakdown of the project

We made a rough planning for this project, the Figure 2.2 shows the planning is. It also shows how we implement the Double Diamond.

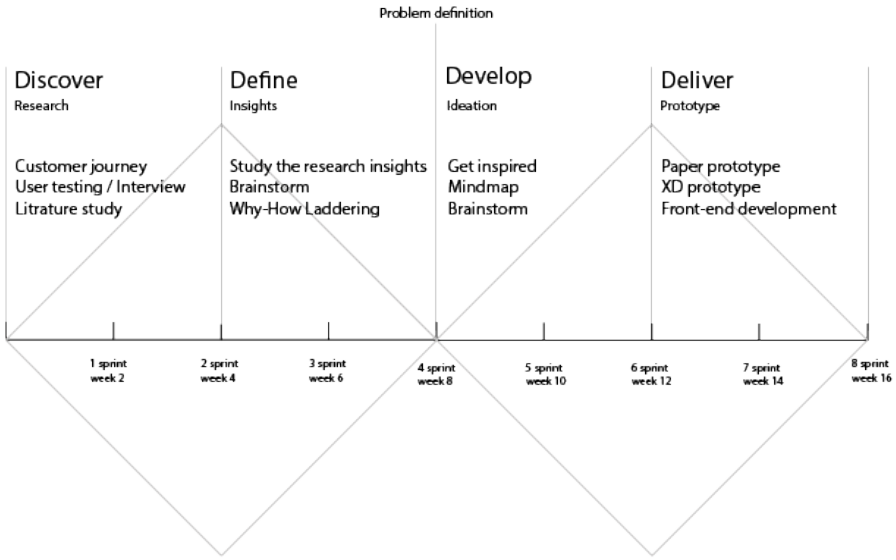


Figure 2.2: Rough planning

2.4 Time plan

Phasering	**Effort**	**Start**	**End**
1 Discover phase .	4 weken	sprint 1 / 7-feb/18-feb	sprint 2 / 21-feb/11-mar
2 Define phase	4 weken	sprint 3 / 14-mar/25-mar	sprint 4 / 28-mar/8-apr
3 Develop phase	4 weken	sprint 5 / 11-apr/22-apr	sprint 6 / 25-apr/6-mei
4 Deliver	4 weken	sprint 7 / 9-mei/20-mei	Sprint 8 / 23-mei/3-jun

Table 2.2: Table of time plan

3 Project organization

3.1 Team members

There are multiple people involved in this project, they all got thier own rol. In this chapter we are going to explain the roles.

3.1.1 Stakeholders

There are few stakeholders for this project Jelte van Geest and Fontys (Sam van der Heijden). Jelte gives feedback on the work, we meet every week to discuss the progress of the project. He commissioned us to do this assignment, he is also the person in charge.

3.1.2 Product owner / Company supervisor

Jelte van Geest is the product owner, this is the person we contact when we have a question; furthermore, on paper he is the Company supervisor.

3.1.3 Designer/Developer

Thupten Rekonkati is the UX/UI designer, he will do all the research and is also the front-end developer.

3.1.4 Users

There are couple of people who uses the app. They do not all have the same function, the main users who register cars are Huub Stokvis (Floor manager) and Dennis (Planning manager). If one of them is absent, Wesley Hunting takes over the process. For this project they are our target group, we will investigate them and eventually the user test has to be performed on them.

3.2 Communication

We have made a few agreements with the stakeholder when it comes down to communication, for example, we have agreed that we will sit down with Jelte at least once a week to discuss the progress of this project.

Zeliox uses Slack as a communication tool, when we need Jelte and he is not available we have permission to sends hem a text through slack. Beside Slack we also use Microsoft Teams, this is the communication tool we use for contacting Sam van der Heijden when we have a question.

3.3 Configuration management

4 Finance and risks

4.1 Cost budget

We have discussed this with the stakeholder/product owner. We came to a conclusion that there are no cost associated with this project.

4.2 Risks and fall-back activities

Risks	**Prevention activities included in plan**	**Fallback activities**
1 The internship supervisor is absent	-	Ask other supervisor
2 Can't get in contact with the target audience	Try to plan an online meeting	Ask the internship supervisor
3 The UI is not user-friendly	Research the target audience	Make a new design and test this on the target audience.

Table 4.1: Lists of risks and fall-back activities

Bibliography

[1] Junhua Deng, Elizabeth Kemp and E. G. Todd. "Managing UI Pattern Collections". In: *Proceedings of the 6th ACM SIGCHI New Zealand Chapter's International Conference on Computer-Human Interaction: Making CHI Natural*. CHINZ '05. Auckland, New Zealand: Association for Computing Machinery, 2005, pp. 31–38. ISBN: 1595930361. DOI: 10.1145/1073943.1073951. URL: https://doi.org/10.1145/1073943.1073951.

[2] Donald Norman and Roberto Verganti. "Incremental and Radical Innovation: Design Research vs. Technology and Meaning Change". In: *Design Issues* 30 (Jan. 2014), pp. 78–96. DOI: 10.1162/DESI_a_00250.